

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1. (Original) A manufacturing method for manufacturing a multilayer film optical member, comprising:

an injection step in which an UV-curable liquid crystal is injected into a space between a pair of transparent substrates, with a transparent conductive film disposed on each of the transparent substrates;

a first radiation step in which ultraviolet light beams, each ultraviolet light beam being a parallel coherent light beam, are radiated onto the UV-curable liquid crystal through the pair of transparent substrates from two sides of the UV-curable liquid crystal; and

a second radiation step in which ultraviolet light achieving uniform intensity on a surface of the transparent substrate is radiated onto the UV-curable liquid crystal through the transparent substrate while applying an electrical field between the pair of transparent conductive films.

2. (Original) A manufacturing method for manufacturing a multilayer film optical member, comprising:

an injection step in which an UV-curable liquid crystal is injected into a space between a pair of transparent substrates;

a first radiation step in which ultraviolet light beams, each ultraviolet light beam being a parallel coherent light beam, are radiated onto the UV-curable liquid crystal through the pair of transparent substrates from two sides of the UV-curable liquid crystal; and

a second radiation step in which ultraviolet light achieving uniform intensity on a surface of the transparent substrate is radiated onto the UV-curable liquid crystal through the transparent substrate while holding in a magnetic field the UV-curable liquid crystal having been injected into the space between the pair of transparent substrates.

3. (Currently Amended) A manufacturing method for manufacturing a multilayer ~~multiplayer~~ film optical member according to claim 2, wherein:

the second radiation step is executed by selecting a desired orientation for the magnetic field relative to surfaces of the pair of transparent substrates.

4. (Currently Amended) A manufacturing method for manufacturing a multilayer film optical member according to claim 1, wherein:

during the first radiation step, an angle of incidence of light radiated onto the UV-curable liquid crystal from one side is set equal to an angle of incidence of light radiated from another side.

5. (Currently Amended) A manufacturing method for manufacturing a multilayer ~~multiplayer~~ film optical member according to claim 1, wherein:

the first radiation step is executed by designating one of radiation intensity and a length of radiation time of light radiated onto the UV-curable liquid crystal from one side and one of radiation intensity and a length of radiation time of light radiated from another side as variables.

6. (Currently Amended) A manufacturing method for manufacturing a ~~an~~ multilayer film optical member according to claim 1, wherein:

the ultraviolet light achieving uniform intensity, that is radiated in the second radiation step, is non-coherent light.

7. (Currently Amended) A manufacturing method for manufacturing a ~~an~~ multilayer film optical member according to claim 1, further comprising:

after ending the second radiation step, a separation step in which the multilayer film optical member is separated from the transparent substrates is executed.

8. (Currently Amended) A multilayer film optical member manufactured through the manufacturing method according to claim 1.

9. (Original) A multilayer film optical member, comprising:

a plurality of liquid crystal layers oriented along directions different from one another and layered one on top of another.

10. (Previously Presented) A multilayer film optical member manufactured through the manufacturing method according to claim 2.

11. (Currently Amended) A manufacturing method for manufacturing a multilayer ~~multiplayer~~ film optical member according to claim 1, wherein:

during the first radiation step, an angle of incidence of light radiated onto the UV-curable liquid crystal is adjustable.

12. (Previously Presented) A manufacturing method for manufacturing a multilayer film optical member according to claim 4, wherein:

during the first radiation step, the angle of incidence of light radiated onto the UV-curable liquid crystal from the one side and the angle of incidence of light radiated from the other side are each adjustable.

13. (Previously Presented) A multilayer film optical member, comprising:
a plurality of layers formed by hardening a single UV-curable liquid crystal under different hardening conditions and layered cyclically one on top of another.
14. (Previously Presented) An optical member, comprising:
the multilayer film optical member according to claim 8.
15. (Previously Presented) An optical member according to claim 14, wherein:
the optical member is a polarization beam splitter.
16. (Previously Presented) A manufacturing method for manufacturing a multilayer film optical member, comprising:
an injection step in which an UV-curable liquid crystal is injected into a space between a pair of transparent substrates, with a transparent conductive film disposed on each of the transparent substrates;
a first radiation step in which ultraviolet light beams, each ultraviolet light beam being a parallel coherent light beam, are radiated onto the UV-curable liquid crystal through the pair of transparent substrates from two sides of the UV-curable liquid crystal;
an application step in which an electrical field is applied between the pair of transparent conductive films; and

a second radiation step in which ultraviolet light achieving uniform intensity on a surface of the transparent substrate is radiated onto the UV-curable liquid crystal through the transparent substrate.

17. (Previously Presented) A manufacturing method for manufacturing a multilayer film optical member according to claim 16, further comprising:

an orientation step in which orientation processing is executed on the pair of transparent substrates, wherein:

the first radiation step is executed while the UV-curable liquid crystal is oriented by the pair of transparent substrates on which the orientation processing is executed in the orientation step.

18. (Previously Presented) A manufacturing method for manufacturing a multilayer film optical member, comprising:

an injection step in which an UV-curable liquid crystal is injected into a space between a pair of transparent substrates;

a first radiation step in which ultraviolet light beams, each ultraviolet light beam being a parallel coherent light beam, are radiated onto the UV-curable liquid crystal through the pair of transparent substrates from two sides of the UV-curable liquid crystal;

a holding step in which the UV-curable liquid crystal having been injected into the space between the pair of transparent substrates is held in a magnetic field; and

a second radiation step in which ultraviolet light achieving uniform intensity on a surface of the transparent substrate is radiated onto the UV-curable liquid crystal through the transparent substrate.

19. (Previously Presented) A manufacturing method for manufacturing a multilayer film optical member according to claim 18, further comprising:

an orientation step in which orientation processing is executed on the pair of transparent substrates, wherein:

the first radiation step is executed while the UV-curable liquid crystal is oriented by the pair of transparent substrates on which the orientation processing is executed in the orientation step.